Nutrition Fact Sheet

Up-to-date nutrition information
for the health care professional

Gestational Diabetes

Gestational Diabetes Mellitus in Wisconsin
Gestational Diabetes Mellitus (GDM) is the carbohydrate intolerance seen in pregnant women who had no previous diagnosis of diabetes. In 1998, Wisconsin birth records reported that 2,051 or 3.0% of births were to women with gestational diabetes. Populations in Wisconsin that are at greater risk for gestational diabetes are Native Americans, Hispanics, African Americans, and South or East Asians. Gestational diabetes usually presents itself in the second half of pregnancy.

Why is early identification and treatment important?
GDM is associated with significant pregnancy complications such as macrosomia, perinatal mortality, and prematurity. These complications are seen even with only moderately elevated blood glucose levels of greater than 140 mg/dL. Strict blood glucose control can prevent macrosomia and other complications.

Screening and Assessment
All women should be screened for GDM between the 24th and 28th week of gestation. The screen utilizes a 50 gm. glucose drink. **Women at high risk for gestational diabetes should be screened as early in the pregnancy as possible.** If GDM is not diagnosed at that time, testing should be repeated at 24-28 weeks **and** at any time a patient has symptoms or signs suggestive of hyperglycemia.

Risk assessment for GDM should be completed at the first visit for prenatal care.
Women at high risk for GDM are those with **one or more** of the following risks:

- Obese (> 20% over desired body weight or with a BMI ≥ 27).
- Strong family history of type 2 diabetes (first degree relatives).
- Personal history of GDM, glucose intolerance, or glucosuria.
- Previous stillbirth or delivery of an infant weighing > 9 pounds at birth.

Principles of Nutritional Treatment for Gestational Diabetes Mellitus
Medical nutrition therapy, provided by a registered dietitian, is the primary treatment for GDM and alone can be effective. The goals of nutrition therapy include providing the necessary nutrients for fetal development and maintenance of maternal health, maintaining normoglycemia, preventing ketosis, and achieving appropriate weight gain. Nutritional prescriptions need to be individualized so that the woman's current weight, physical activity, and recommended weight gain are taken into account.

Distribution of carbohydrate and calories are based on the patient's post-prandial blood glucose results. The diet distributes carbohydrate into smaller meals and 2-3 between meal snacks. Breakfast should be limited to a maximum of 45 grams of carbohydrate, because of increased insulin resistance in the morning. A reduction in foods with high carbohydrate content such as regular soda pop, desserts, and large portions are recommended. Women need to be counseled not to skip or delay meals and snacks to prevent ketosis and hypoglycemia, which may adversely affect the fetus.

Regular exercise, in addition to nutrition therapy, may be used to improve maternal blood glucose levels. Exercise helps to reduce insulin resistance associated with GDM. A minimum of three sessions (each > 15 minutes) of exercise per week appears to be necessary to modify

maternal blood glucose levels. Physical activity right after meals seems to be the most beneficial.

When a woman is unable to achieve the nutritional and blood glucose goals of the pregnancy through diet and exercise, insulin therapy is necessary. As with all aspects of care, insulin therapy must be individualized.

The nutrition therapist can also encourage and facilitate a decision to breastfeed. An extended period of breastfeeding (6 months or more) can help with postpartum weight loss. Breastfeeding is also associated with a lower risk of obesity and, in some populations, diabetes in the offspring.

What About Long-term Implications and Management after Pregnancy?

Although most women with GDM return to normal glucose tolerance postpartum, GDM is associated with a high lifetime risk for diabetes. Glucose tolerance should be reevaluated at 6-12 weeks postpartum and at least annually. These women would also benefit from knowing the common symptoms of diabetes.

Because subsequent pregnancies carry a risk for GDM, all women with prior GDM need to plan future pregnancies. These women need pre-conception counseling on the risks of uncontrolled diabetes to the fetus and the mother and the benefits of folic acid supplementation. Evaluation of glucose tolerance should be done prior to conception and again early in the pregnancy.

Every woman who has had GDM should be educated that the most important things she can do after pregnancy and for the rest of her life to prevent diabetes are:

1. **Be physically active**. Exercise can cut the risk dramatically, even for women who continue to be overweight. Physical activity of any kind cuts the risk of getting diabetes. A goal of 30 minutes of physical activity at least 5 days a week should be encouraged.

2. **Lose any extra weight**, especially if the woman has a high waist-to-hip ratio or an "apple" shape. A woman should maintain a weight that results in a body mass index (BMI) between 19.8 and 26.0.

References:

1. American Diabetes Association. Position Statement – Gestational Diabetes Mellitus. Diabetes Care, January 1998, 21,Sup 1.
2. Metzger BE, Coustan DR, The Organizing Committee. Summary and Recommendations of the Fourth International Workshop-Conference on Gestational Diabetes Mellitus. Diabetes Care, August 1998; 21, Sup 2
3. Worthington-Roberts BS, Williams SR. Nutrition in Pregnancy and Lactation, fifth edition. Mosby-Year Book, Inc. 1993;250-258
4. Schardt D, Schmidt S. How to avoid adult onset diabetes. Center for Science in the Public Interest 1996; 23, 7:3-5
5. Tolsloi LG, Josimovich JB, Gestational Diabetes Mellitus: Etiology and Management. Nutrition Today, 1999;34, 5:178-188

Endorsed by:

State Medical Society of Wisconsin

Physicians Working Together, Advancing the Health of the People of Wisconsin